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EXAMINER	
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ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/738,325	NOMOTO ET AL.	
	Examiner	Art Unit	
	Kalyan K. Deshpande	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. The following is a non-final office action in response to the communications received on March 27, 2006. Claims 1-5 and 7-10 are now pending in this application.

Response to Amendments

2. Applicants' amendments to claims 1-4 and 8-10 are acknowledged. Examiner requests Applicants to change the status of claim 2 from "original" to "currently amended" and reminds applicants that failures of this nature can result in a notice of non-compliance. Applicants' cancellation of claims 6 and 11 is acknowledged. Examiner withdraws the 35 U.S.C. §101 rejections and the 35 U.S.C. §112 first paragraph rejections. Examiner withdraws the previous 35 U.S.C. §112 second paragraph rejections and asserts new 35 U.S.C. §112 second paragraph rejections. Examiner asserts new 35 U.S.C. §103 rejections.

Response to Arguments

3. Applicants' arguments filed on March 27, 2006 have been fully considered but they are not found persuasive or are moot in view of the new ground(s) of rejection. Applicants argues i) the scenarios taught by Cheng et al. are not the same as the use of restrictive conditions and objective functions taught by the present invention, ii) Cheng et al. fail to teach "making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply production and/or transportation to a marketing point", iii) "inputting the data relating to target values of at

least inventory, profit, sales, cost , a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash, as management indices wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value", iv) "incorporating the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restriction condition", and v) "solving a linear programming problem".

In response to Applicants' argument Cheng et al. fails to teach the scenarios taught by Cheng et al. are not the same as the use of restrictive conditions and objective functions taught by the present invention, Examiner respectfully disagrees. The scenarios taught by Cheng et al. incorporate the use of capabilities and constraints on the system in solving the formulated linear problem (see column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. The constraints (restriction conditions) for the production system are used in creating the linear equation to be solved.). Objective functions are defined as management tactics such profit, cost, and fulfillment rates per Specification page 9. Restrictive conditions are conditions describing the capabilities of the production system as per Specification page 9. Furthermore, the restrictive conditions are input as

objective functions into the linear program to be solved (see Specification page 9). As per these definitions provided by Applicants, the use of scenarios to describe capacities and constraints of a system to formulate and solve a linear problem to determine an optimal setting is the same as using objective functions and restrictive conditions as inputs to a linear program to optimize a production system.

Applicants' argument regarding Cheng et al. fail to teach "making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply production and/or transportation to a marketing point" with respect to claim 1 has been considered but is moot in view of the new ground(s) of rejection as necessitated by amendment.

In response to Applicants' arguments regarding Cheng et al. fail to teach "inputting the data relating to target values of at least inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash, as management indices wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value", the argument is considered in part moot in view of the new ground(s) of rejection as necessitated by amendment and Examiner disagrees in part. Specifically, Cheng et al. fail to explicitly

teach "inputting the data relating to target values of at least inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash, as management indices"; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP ∋ 2106.* Applicants' argument regarding Cheng et al. fail to teach ""wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices, and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value" has been fully considered but is moot in view of the new ground(s) of rejection as necessitated by amendment.

In response to Applicants' argument Cheng et al. fail to teach "incorporating the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restriction condition", Examiner respectfully disagrees. Cheng et al. teach incorporating

the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restrictive condition (see column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. The constraints (restriction conditions) for the production system are used in creating the linear equation to be solved.).

In response to Applicants' argument Cheng et al. fail to teach "solving a linear programming problem", Examiner respectfully disagrees. Cheng et al. teach solving a linear programming problem (see column 4 lines 1-48; where a formulated linear program is solved.).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 1 recites the limitation "wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices, and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value". It is unclear as to what is being claimed with this limitation. For the purposes of examination, Examiner interprets this limitation

to be first determining a target value for a business process and second optimizing a model such that the target value is maximized or minimized depending on the business process.

Additionally, claim 1 further recites the limitation "incorporating the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restriction condition". It is unclear as to what is being claimed with this limitation. For the purposes of examination, Examiner interprets this limitation to mean using the determined optimized value in the logistics management model.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. (U.S. Patent No. 6138103) in view of Ettl et al. (U.S. Patent No. 5946662).

As per claim 1, Cheng et al. teach:

A method of production planning, implemented in a production planning system in response to a request for production planning from a terminal operated by a user, for calculating a plurality of management indices related with production activity that are used in production of products, said method comprising the steps of:

Incorporating the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restriction condition (see column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. The constraints (restriction conditions) for the production system are used in creating the linear equation to be solved.);

Solving a linear programming problem (see column 4 lines 1-48; where a formulated linear program is solved.);

Calculating a feasible real value x so that estrangement between said target value of each of said management indices, calculated from an executable solution of said linear programming problem, comes to be minimal (see column 7 lines 10-38; where the difference between the maximum and minimum payoffs is computed. The estrangement value is the deviation between the expected value and the actual value as per Specification page 8.); and

Showing said real value x calculated on a display of the terminal as the calculated management indices used to produce the products according to the production planning (see column 7 lines 10-38 and column 10 lines 33-40; where the user can view the pay-off table. The pay-off table has the difference between the maximum and minimum payoff values.).

Cheng et al. fail to teach "making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply

production and/or transportation to a marketing point", "formulating processes from the monitored storage of parts until delivery of products to the marketing points in a linear programming problem, by combining the processes including the storage, warehouse and delivery of each item", "inputting the data of various constants, and "wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices", "and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value". Ettl et al. in an analogous art teach "making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply production and/or transportation to a marketing point" (see Ettl et al. column 2 lines 12-30; where all sites capable of building finished goods, components, or sub-assemblies are modeled. The storage areas are included in the model as inventory flows in and out of the storage areas.), "formulating processes from the monitored storage of parts until delivery of products to the marketing points in a linear programming problem, by combining the processes including the storage, warehouse and delivery of each item" (see Ettl et al. column 2 lines 12-30; where the model includes the processes of the flow of the product in and out of sites all the way up to the point where the product reaches the customer.), "inputting the data of various constants (see Ettl et al. column 6 lines 40-67; where various data constants are input in to the demand model.), and "wherein data relating to the target values of the

management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices" (see Ettl et al. column 13 lines 34-67; where target goals for minimizing the inventory are set. This is done with a balance to satisfying customer service level requirements.), "and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value" (see Ettl et al. column 13 lines 34-67; where the inventory optimization problem is solved to find the minimum cost.). The advantage of these features is that it accounts for the flow of inventory from storage to on-hand and finally to the customer, thereby increase the accuracy of the model and increasing the accuracy of the optimization. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply production and/or transportation to a marketing point", "formulating processes from the monitored storage of parts until delivery of products to the marketing points in a linear programming problem, by combining the processes including the storage, warehouse and delivery of each item", "inputting the data of various constants, and "wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices", "and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a

numerical value" taught by Ettl et al. with the Cheng et al. system in order to increase the accuracy of the logistics model and increasing the accuracy of the optimization, which is a goal of Cheng et al. (see column 2 lines 19-30).

Cheng et al. also fail to explicitly teach "inputting the data relating to target values of at least inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash, as management indices"; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP ∋ 2106.*

As per claim 2, Cheng et al. teach:

The method of production planning, as is defined in claim 1, wherein said values of said management indices are displayed on the display of said terminal of a form of a rod graph (see column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph.).

Cheng et al. fail to explicitly teach "displaying in the form of a radar chart". Cheng et al. disclose using tables and explicitly teach the use of a bar chart (see

column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph). Cheng et al. further provide a link to transform the data in to other charts (see figures 7-8). The other charts disclosed by Cheng et al. are the same as the use of a radar chart. The advantage of displaying the data in the form of a radar chart is that it facilitates the users' ability to view the data and thereby confirm the validity of the solution. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of displaying the data in the form of a radar chart with the Cheng et al. system in order to facilitate the users' ability to view the data and thereby confirm the validity of the solution, which is a goal of Cheng et al. (see column 1 lines 35-55).

As per claim 3, Cheng et al. teach:

The method of production planning, as is defined in claim 1, wherein said management indices are the values of said management indices after the addition or the change thereof are displayed on said display of said terminal in a form of a radar chart or a rod graph (see column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph. The payoff table contains the difference between the actual value and the expected value.).

Claim 3 further recites limitations already addressed by the rejection of claim 2; therefore the same rejection applies to this claim.

As per claim 4, Cheng et al. teach:

A method of production planning, as is defined in claim 1, where in production amount and/or material supply amount and/or transportation amount is/are calculated out by repeating steps of:

Setting said target value of each of said management index through an input means (see column 6 lines 57-67 and column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. Different target values for each scenario are input in to the payoff table in order to determine optimal values.);

Solving said linear programming problem in a calculation means (see column 4 lines 1-48; where a formulated linear program is solved.);

Displaying a result thereof on said display of said terminal, and again, changing said restriction condition stored in a memory means upon receipt of change in said target value of each of said management index through said input means (see column 7 lines 10-38, column 10 lines 33-40, and column 11 lines 8-12; where the user can view the pay-off table. The pay-off table has the difference between the maximum and minimum payoff values. Constraints (restriction conditions) are used in developing the linear equation to be solved. The results of the linear equation are displayed in the payoff table.);

Solving said linear programming problem, the restriction condition which is changed, in said calculation means (see column 6 lines 57-67 and column 7 lines 10-38; where the where the target values for each process in each scenario is mapped on to the pay-off table. Different target values for each scenario are input in

to the payoff table in order to determine optimal values. Each scenario has different constraints (restriction conditions), thus the input of different scenarios is the same as changing the restriction conditions.); and

Displaying the result thereof on said display of said terminal ((see column 7 lines 10-38 and column 10 lines 33-40; where the user can view the pay-off table. The payoff table displayed optimal values based on constraints (restriction conditions) input for different scenarios (changed restrictions)).

As per claim 5, Cheng et al. teach:

A memory medium, storing program for executing said processes in the method of production planning, as defined in claim 1 (see column 11 lines 8-12; where the system uses a CPU and a memory medium to carry out the optimization.).

As per claim 7, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said linear programming problem is solved by adding at least one management index to said management index, or by changing at least one management index in to another management index, or by changing at least one target value of said management index into another value, thereby calculating out values of the management indices after the addition or the change thereof (see column 6 lines 57-67 and column 7 lines 10-38; where different constraints are input in to the formulated linear equation to represent different scenarios. Each scenario is solved and the results of the optimization are displayed in a payoff table. The payoff table displays target values

and actual values based on the optimization. Each management index is the same as a constraint input in to the linear problem.).

As per claim 8, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said values of said management index is displayed on a said display in a form of a radar chart or a rod graph (see column 7 lines 10-38, column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart.).

Claim 8 further recites limitations already addressed by the rejection of claim 2; therefore the same rejection applies to this claim.

As per claim 9, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said management index and the value of said management index after the addition or the change thereof are displayed on a said display of said terminal in a form of a radar chart or a rod graph (see column 6 lines 57-67, column 7 lines 10-38, column 10 lines 50-67 and figures 7-8; where each scenario and the values and constraints used for each scenario is displayed in the payoff table. As described above, different scenarios use different constraints, which is the same as the addition or change in a management index.).

Claim 9 further recites limitations already addressed by the rejection of claim 2; therefore the same rejection applies to this claim.

As per claim 10, Cheng et al. teach:

A method of production planning, as defined in claim 1, wherein said target value of said management index and actual value of said management index are displayed on said display of said terminal in a form of a radar chart or a rod graph (see column 10 lines 50-67 and figures 7-8; where the payoff table can be represented in a bar chart. A bar chart is the same as a rod graph. The payoff table contains the difference between the actual value and the expected value.).

Claim 10 further recites limitations already addressed by the rejection of claim 2; therefore the same rejection applies to this claim.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Chin et al (U.S. Patent No. 5787283) teaches a tool including a framework suitable for manufacturing logistics decision support. The tool comprises means for providing an object-oriented technology framework, the framework comprising: means for defining objects representing manufacturing logistics problems; means for transforming a subject of the above objects into representations commonly used in a mathematical solver, wherein the representations in the solver have predefined relationships based on their properties; and, means responsive to selective changes in the objects for modifying the behavior of the framework for developing anew manufacturing logistics decision support application.

Braun (U.S. Patent No. 6341266) teaches a method and system for managing in a multiple level distribution chain by applying optimization algorithms to a range profile constructed from a formulation of the distribution network and the various elements factored in the network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571) 272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kkd

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